

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method to enhance a first CT image composed of a plurality of elements, each element having an intensity value indicative of a tissue type, the method comprising:

receiving the first CT image,

providing, by enhancement processing based on the first CT image, ~~at least one or more~~ processed CT images, the enhancement processing being performed with respect to at least one predetermined intensity value range, and

combining ~~at least one of the first CT image and one or more of the one or more~~ and the at least one processed CT images or at least two of the processed CT images, whereby an enhanced CT image is provided, the combining being based on a classification with respect to intensity values of regions within at least one of the first CT image and the one or more ~~at least one~~ processed CT images.

2. (Currently Amended) The method of claim 1, further comprising receiving an indication of the at least one predetermined value range and associating the at least one predetermined intensity value range with the one or more of the ~~at least one~~ processed CT images.

3. (Previously Presented) The method of claim 1, wherein the enhancement processing is adaptive to a local structure defined by at least one of the plurality of elements.

4. (Previously Presented) The method of claim 3, wherein the local structure is defined by a group of elements whose intensity values are within the at least one predetermined intensity value range.

5. (Currently Amended) The method of claim 1, wherein the enhancement processing comprises applying a non-linear filter to the one or more of the at least one processed CT images.

6. (Previously Presented) The method of claim 1, wherein the enhancement processing includes at least one of a noise reduction using a low pass filter, a contrast enhancement using unsharp masking, a rank filtering, an adaptive filtering, a mean-shift filtering, a variational method, a multiband technique and a wavelet technique.

7. (Currently Amended) The method as claimed in claim 1, wherein combining at least one of the first CT image and the one or more of the at least one processed CT images comprises:

determining a first region mask for the first CT image, the first region mask defining an area within the first CT image, whose elements have intensity values within a first intensity value range,

determining a respective additional region mask for the one or more of the at least one processed CT images, the respective additional region mask defining an area within a respective processed image of the first CT image, whose elements have intensity values within the predetermined intensity value ranges, and

combining the first CT image and the one or more of the~~at least one~~ processed CT images, weighted by their respective region masks, whereby the enhanced CT image is provided.

8. (Currently Amended) The method of claim 7, further comprising prioritizing the first CT image and the one or more of the~~at least one~~ processed CT images, whereby an element of a CT image having a higher priority is included in the enhanced CT image and a correspondingly located element of a CT image having a lower priority is excluded from the enhanced CT image.

9. (Previously Presented) The method of claim 7, further comprising smoothing the region masks.

10. (Previously Presented) The method of claim 7, further comprising normalizing the region masks.

11. (Previously Presented) The method of claim 7, further comprising subjecting at least one of the region masks to a morphological closing and/or opening algorithm.

12. (Currently Amended) The method of claim 1, wherein the first CT image is selected from one of a two-dimensional array, a three-dimensional array and a four-dimensional array.

13. (Previously Presented) The method as claimed in claim 1, wherein the first CT image is subjected to a second enhancement processing prior to the combining.

14. (Previously Presented) The method as claimed in claim 13, wherein the second enhancement processing is performed with respect to a second predetermined intensity value range.

15. (Previously Presented) A computer readable medium including at least one of programs and program modules to, when executed on a computer, cause the computer to implement the method of claim 1.

16. (Previously Presented) A storage medium having stored thereon a computer-readable medium according to claim 15.

17. (Cancelled).

18. (Currently Amended) A device for enhancing a first CT image composed of a plurality of elements, each element having an intensity value indicative of a tissue type, the device comprising:

receiving means for receiving the first CT image,

processing means arranged for providing, by enhancement processing based on the first CT image, ~~at least one~~ or more processed CT images, the processing means being adapted for enhancement processing with respect to at least one predetermined intensity value range, and

~~means for combining at least one of the first CT image and one or more of the one or more~~ and the at least one processed CT images or at least two of the processed CT images, whereby an enhanced CT image is provided, the combining being based on a

classification with respect to intensity values of regions within at least one of the first CT image and the one or more of the at least one processed CT images.

19. (Currently Amended) A method to enhance a first digital image composed of a plurality of elements, each element having an intensity value, the method comprising:

receiving the first digital image,

providing, by enhancement processing based on the first digital image, one or more at least one processed digital images, the enhancement processing being performed with respect to at least one predetermined intensity value range, and

combining ~~at least one of the first digital image~~ and one or more of the one or more and the at least one processed digital images or at least two of the processed CT images, whereby an enhanced digital image is provided, the combining being based on a classification with respect to intensity values of regions within at least one of the first image and the one or more of the said the at least one processed digital images.

******END OF LISTING OF CLAIMS******